

It is fished for by means of nets and fish-traps. Another method is practised by night, and consists of lighting a straw fire in a canoe so as to produce a tall flame. Attracted by the light, the fish jump towards it and fall into the canoe.

NYUNA (OR UNA)

Scombridae, a small silvery bait fish

Migratory Habits.—This fish is to be found all the year round in Lamu waters, but is more plentiful from March till November. They are said to be much more numerous in Arabian waters than here, but it is not known whether they actually migrate.

Haunts.—The nyuna lives in the open sea, but prefers land-locked bays with a sandy bottom—like Manda Bay, for instance.

Breeding.—It is not known if they breed here. The roe is extremely small, and is described as being like grains of sand. Lamu fishermen believe that they do not spawn at all, but that they fall from heaven with the rain, as they always become much more plentiful as soon as the rainy season begins in March.

Bait and Methods of Catching.—This fish is caught in nets, traps, and with a hook and line, the best bait being crab meat, sea slugs, and octopus meat.

A NATURAL HISTORY EXPEDITION THROUGH THE KEDONG VALLEY, B.E.A.

BY A. LOVERIDGE

The object of this trip was to collect the eggs of vultures and buzzards, which we were told nested in the rocky fastnesses of the Kedong Valley, an arid region lying almost due south of Lake Naivasha. The only data we had to go upon as to the right season to procure eggs was an account of the nesting of an augur buzzard, whose eggs hatched on August 22, and

information given by Mr. A. J. Klein, who had visited this region 'about the middle of August,' at which season there were apparently 'large young ones in the nests.'

July 15, 1915.—Rising about 5 A.M., I breakfasted, and then packed my bedding, &c., and started my boy Cumow off to the station as 7 A.M. I left at the same time myself for the Museum, where I filled a portmanteau with scalpels, preservatives for skinning, and all necessary materials for entomological collecting. At 7.30 Kinangozi—the Museum skinner—started with this bag to the station. Finishing off a few matters and straightening up occupied me for nearly half an hour longer, so that I arrived at the station exactly at 8 A.M. We were to travel in the guard's van of a goods train due to leave at 8.30, but, as a matter of fact, we did not get off till something after 9.30.

Very leisurely did the train move along, and I spent some time sitting on the step and watching the scenery, and at times one could well have jumped out and run alongside. I saw a fine black-backed jackal (*Canis mesomelas*) by a fence of the Government Veterinary Farm, Kabete. We did not get off at Kijabe, as originally planned, but arranged to be dropped ten miles further up by the track. It was a veritable 'No Man's Land' where we got out, and after wishing the guard good-bye, we did not see another man, white or black, for four days (except one native on the fourth). The soil was very sandy and scattered over with mimosa and thorn bushes; what little grass there was was dry and yellow.

Some two hundred yards away from the line we could see some Coke's hartebeest (*Alcelaphus Cokei kongoni*), and in following these up I came upon a very fine cast skin of a hissing sand snake (*Psammodphis sibilans*). We marched for about two hours towards Lake Naivasha, and pitched camp some three miles south of it. After a cup of tea we followed up a big herd of kongoni near the camp, and my companion, Mr. A. G. Bush, shot one for the porters to eat; including the two gun-bearers, headman, and cook, there were thirty of these fellows to be provided for. We had to hurry back to reach camp before dark, and on the way I picked off two cicadas who were shrilling away on a shrub.

July 16, 1915.—Rose at 5.30 ; it was bitterly cold, being 7000 feet above sea-level (Snowdon is 3571). Breakfasted by the camp fire whilst our tents were being pulled down, and got away before 7 A.M. After going a few miles we were descending a hillside when my companion spotted a fishing eagle (*Pandion haliaetus*) down in the middle of a great plain that stretched away to the lake shore. It very soon saw us, and, rising on its great five-foot pinions, slowly flew in the direction of the lake. We watched it through the glasses, and apparently it pitched in a euphorbia tree half-way up a rocky cliff-like escarpment. Whilst the safari continued its way, we followed after the bird, and as we approached the tree I could make out a nest with apparently the bird on it. At the same time my companion fired at some rock hyrax (*Procavia Brucei maculata*) and killed two females. With two such loud reports going off almost immediately below its nest one would have expected the bird to leave—but no.

I climbed the escarpment till I was almost level with the huge nest, and the bird's head distinctly visible some thirty feet from where I stood. The tree was like a huge cactus, with pear-shaped leaves from which other pear-shaped leaves sprouted. With bits of earth I pelted the bird, and though one pellet fell on her back and another hit her on the head, she merely stood up in the nest. We both agreed that we had never known a bird sit so tight, and I was convinced that it must be an almost fledged young one ; and so it turned out to be, as a little later we saw the parent birds soaring up in the blue nearly a mile away. We put up a big owl, probably *Bubo maculosus*, but failed to find any nest among the rocky crevices in the crags.

After this diversion we plodded on our way across many miles of grassland and thorny scrub. An interesting feature of these acacia bushes was that almost every dried black fruit had a hole below the pair of large white thorns, and if you attempted to reach a nest in the bush or brushed against it, out swarmed small ants from these holes and ran hither and thither with their acutely-pointed plump little abdomens jerking up and down ; as soon as they had crowded on to one's sleeve or arm they commenced to bite fiercely. I am not

sure if I am correct in calling these growths 'fruits,' as they always appear to be hollow round balls about the size of an English horse chestnut.¹

We came across lion's spoor and several remains of kills; also disturbed a jackal, which loped leisurely away. For the first time I saw eland (*Taurotragus Oryx Livingstonei*) in a wild state. This is the biggest of all the antelopes, and interesting experiments in domestication are being conducted at the Government Farm, Kabete. Zebra were abundant. Walking through a heathery-like vegetation nearly up to one's knees, I disturbed a francolin, and a moment later Mr. Bush started a cheetah (*Cynælurus jubatus guttatus*) at a few yards' distance; it went bounding away, and was lost to sight amongst the rocks at the entrance of the gorge.

The cliffs forming the sides of the gorge were some two hundred feet high, and at its entrance the width must have been nearly half a mile. Camp was pitched under the shadow of the cliffs on the right at 12 A.M., and we were glad to escape from the fierce heat of the noonday sun. Swifts, swallows, and martins of several species had their nests here, the swifts in crevices, whilst the swallows and martins had plastered theirs to the cliff-face, sometimes in clumps of twenty or more. I also watched a pair of sprees (rock starlings) coming and going from a nest hole. We could hear the cries of young from many of the nests, which was a bad omen for the success of our expedition.

Later in the afternoon we went for a stroll, and collected a wheatear (*Saxicola pleschanka*), a spree (*Spreo* sp.), and a sunbird (*Cinnyris* sp.), all new to the Museum collection. A pair of secretary birds (*Serpentarius secretarius*) were stalking about the plain in the middle of the gorge, but were far too wary to allow anyone to come within range. As the shades of evening drew in, thousands upon thousands of swifts shot screaming through the air, parties of five or six would dive past your head and startle you with the sound of the air whistling through their feathers. It was whilst busily engaged

¹ These hollow balls are the swollen bases (galls) of the young thorns of *Acacia fistulosa*, and are occupied by ants after their abandonment by the gall-fly.

in lying on my back looking up at them that I witnessed a never-to-be-forgotten sight. A hawk shot out from the shelter of the cliff in pursuit of a swift which sought security by soaring up into a flock, many thousand strong, and dodging amongst them. Never for a moment did the hawk lose sight of its prey; hither and thither amongst that mighty host they sped, and several times the swift only saved itself from the pursuing beak by a sudden doubling. Whilst this was going on, the swifts from all around were coming up, till such a mighty host of birds I never saw in my life; the sound of their wings was like that of distant waves breaking on the shore, and the air was full of their whistlings.

How long the pursuit lasted I cannot say, as I was too intent on watching it through, but finally the hawk gave up, and slowly sailed off to its niche in the cliff-face with a score or two of shrieking swifts in attendance.

July 17, 1915.—Whilst the skimmers were preparing the hyrax and birds, I strolled off and shot two male and a female bee-eater (*Merops bullockoides*). These birds hover in the air catching insects just like a flycatcher; they also cling to the face of a cliff as a swift does. Immediately after lunch we started off through the gorge to a place where we could get water, the present camp being four miles from the nearest. The cliffs on our right became higher and higher, till I am sure they were at least three times as high as the highest points between Penarth and Lavernock. Sitting on a rock at the base of this towering cliff was a young eagle (*Aquila rapax*), and another was on a tree a few yards off. The former fell dead with a 0.22 bullet through the heart, and one of the boys clambered up and fetched it down.

I disturbed a duiker buck in some scrub, and we saw a lot of zebra (*Equus Burchelli Granti*) and kongoni. We came across some lion spoor and a lot of leopard till after several hours' marching we descended about a hundred feet down a rocky watercourse into a still narrower gorge which was crammed with vegetation, differing in this respect from the part we had just left.

While camp was being pitched here I took a stroll on to try and get one of the lead-coloured pigeons which were very

common, but of which no representative existed in the Museum collection. The sky grew very black, and gusts of wind whirled through the gorge, betokening a coming storm, so I hastened back to camp, getting there just before the first heavy drops began to fall. On the way I heard the 'chacma, chacma,' cry of a baboon (*Papio ibeanus*), and looking up saw a great beast sitting on a boulder weighing half a ton, on the very brink of a 200-feet precipice. It looked very weird against the lowering sky.

July 18, 1915.—Being Sunday, we remained in camp, and about noon the heat was terrific, being retained and reflected by the masses of rock on either side, for at this spot the gorge was only a hundred feet wide from cliff to cliff. Beside the camp was a little trickle of a stream of a rusty-red colour from the sap of acacia bark which it absorbed on its way. There were a lot of very innocent and *Musca*-like flies which were armed with a sucking proboscis and were as painful in their operations as English horse-flies.

About 11 A.M. we strolled down to where the gorge opened out about a quarter of a mile below camp, and here we came upon a clear-as-crystal streamlet which we agreed was far better for making tea and porridge from than the acacia-bark mixture.

We followed it up, and presently came to the remains of an ox lying in it. 'Bass' (spelt 'bassi'), which is the native way of saying 'nuff said.' This second stream issued from another narrow gorge which was as tropical in appearance as one could wish, and we proceeded up it for a little way. Mr. Bush, noticing steam arising from the stream, put his hand in and found the water as hot as he could bear and tracking the stream to its source, found the water coming out of the spring almost boiling. In the more temperate part there was a brilliant green conferva growing in it of that shade which one associates with the trees in 'Noah's Arks.'

July 19, 1915.—We were astir at dawn and on the march by six o'clock. As we wended our way down the sandy-gravelly dry river bed, bounded on either side by the limestone cliffs afar off, I discerned what I took to be a column of smoke from somebody's camp-fire. As we got nearer it proved to be

a column of steam nearly a hundred feet high arising from the lava, and as we got near, the water below could be heard boiling, the noise being like to the rumbling of a train and distinct for three hundred yards away or more. We climbed the slope to it, but all that one could see was the steam pouring up through the fissure, whilst within a hundred yards were five smaller jets and a score or two of very small ones arising from the ground. The lava all about was very sulphureous. Mr. Bush opined that the crust must be very thin for so many small jets to have worked their way out, and considered it an undesirable place to be standing about on.

In my opinion, the whole scenery was very like the pictures one sees of the Yellowstone National Park, and the only thing lacking appeared to be cascades of water and the 'big trees.' It is probable that at one time this gorge served as an outlet to Lake Naivasha. Hornblende lay about in lumps in considerable quantities.

Further on we came across the mountainous droppings of a rhinoceros, and saw where it had been tearing up the ground with its horn and smashing up the shrubs and small trees in some exuberant fury. Plenty of leopard tracks, and we were afterwards informed that this gorge contains the largest examples in the country.

As we proceeded, vultures became commoner, circling in the sky at a great height or sitting in the trees on the brink of the precipice, and then to our left we came upon the place we sought, a great cliff from which there flapped away numbers of buzzards and nigh on a hundred vultures; though the cliffs were liberally white-washed, we could not distinguish any nests, and as we were certain that these would now hold large young ones, if anything at all, we held on our way instead of going over to them.

It was now about eight o'clock, and we were clear of the gorge when a native rose up from behind a bush and handed a note to Mr. Bush inviting us to partake of breakfast with a surveyor named Mr. Gemmell; this we gladly decided to accept. The man pointed in a certain direction, and said the camp was just over there; after half an hour's hard walking he was again inquired of, and the cheering information given

that it was quite close by, and so on till we reached it at 9 A.M.

Breakfast over, we lay around till 11.30, when Mr. Gemmell's mule turned up, which was very kindly placed at Mr. Bush's disposal for a week, as his feet were badly blistered. Our host told us that two nights before, when half a mile from camp, he came upon a troop of ten lions and three cubs; being armed with nothing but a shot-gun, he remained quiet, and fortunately they did not molest him. He was at this time engaged in marking out the boundary line of the Masai Reserve, to which he conducted us. The boundary is marked by clearing all shrubs and trees for a width of about twenty feet, which gives it the appearance of a ride in a fir copse at home, only in this case it stretched away almost as far as the eye could see. Hour after hour we plodded along this through the Barra-barra, a famous lion country where Paul Rainey recently got seven or eight out of a troop of nine in one day. On reaching the survey beacon we turned off along a native track which passed through a variety of country. On some rocks I shot a brilliant Agama lizard whose head was coloured a rich brick-red, and the body, more particularly underneath, a vivid ultramarine blue.

In some trees near an empty watercourse I secured a pair of bee-eaters (*Merops pusillus*), not so large as the species inhabiting the gorge, but, if possible, of more brilliant colouring, consisting of bright green, blue, yellow, and black. Also shot a glossy starling (*Lamprocolius sycobius*), a larger bird than the English species, and its plumage is of a most metallic electric blue. After walking for five miles across a plain which was like walking through an English hayfield, we reached the house of Mr. —, where we were very hospitably entertained to tea and dinner. Next morning they were off to a camp near the little crater on Mount Siswa, and we were regaled with glowing accounts of the abundance of game, particularly buffalo, so we decided to accept their invitation to accompany them and return to our camp in the evening.

July 20, 1915.—Started about eight. On the way up I visited their water-supply—a pot-hole in the dry and rocky river-bed. As in many pot-holes, the sides were undercut, and

during the drought of last December thirteen buffalo (*Bos caffer Radcliffei*) fell in and died a miserable death, trampling on each other. No one could approach the place, for as long as they were alive the remainder of the herd kept guard over them.

For an hour and a half we marched up the rocky slopes forming the sides of the old volcano, and for another hour we trekked across a grassy plain leading into the mouth of the crater, which was many miles across. The smaller crater we could see half a day away in one corner of the larger crater. It was full of fine trees and vegetation. The sides, we were told, are very precipitous, being 300 feet sheer in places, and it is said that no one can get into it—hence the title of the 'Lost Continent' which it has been dubbed. A mile inside the big crater we halted and, bidding our 'friends' 'Good-bye,' turned back, sadder, wiser, and most certainly footsorer. We mutually agreed that never before was such a 'had' or 'take in.' To drag poor blister-footed wayfarers up the mountain to look on a great bare grassy plain whilst incomparably superior scenery was below made it difficult to express our feelings.

While Mr. Bush was off after a kongoni, I started back a short cut with my boy, and crossed half a dozen dry river-beds full of vegetation. In the sand I came upon numbers of lion tracks and very fresh traces of rhino. Camp was reached at 1 P.M. Later in the day, when it was cooler, we sallied out near camp with some beaters, and I shot a bare-throated spurfowl on the wing. This bird (*Pternistes infuscatus*) is larger than a partridge, and the bare skin of the throat is brilliant yellow shading into crimson nearer the beak.

Mr. Bush shot a fine bustard (*Eupodotis maculipennis*) both of which were made up for the Museum.

July 21, 1915.—Up at 4.30. At this time of day the temperature is bitterly cold owing to the altitude. About 5.20 the first flush of dawn appeared in the east, and ten minutes later we were just able to see, so started off. For the first mile I rode the mule, but as she fell through mole-holes at every few yards, I decided on my own feet. As it grew light we heard a most weird and human-like bleating which our boys said was made by the newly-dropped young of Thompson's gazelle (*Gazella Thomsoni*). There were great herds of Grant's gazelles

(*G. Granti*) about too, and my companion shot a buck of one of these for its meat. Zebras appeared very tame, and several times allowed us to come up within thirty yards of them before making off. Many of them were accompanied by their young.

Near Mount Margaret Mr. Bush shot a Stanley bustard (*Otis caffra*), a very fine bird slightly larger than a turkey. We also picked up a few lizards along the path, and I glimpsed a hissing sand snake disappearing into its hole, the first snake seen on the trip. At noon we reached the Kedong River, a small affair just over one's knees. Here I halted, having done nineteen miles without a stop except to bag an occasional specimen. I paddled about till the safari caught up and then on again to Mr. Bowker's farm, a mile and a half away. We were very hospitably received and entertained for the rest of the day.

Camp was pitched under a fig-tree beside a water-furrow close to the house. Monotony was kept at bay by a bevy of domesticated ostriches which were on the alert to pick up what came their way; one of them seized the body of a bird just removed from its skin by my boy. About noon a swarm of locusts arrived which had been haunting the neighbourhood for the past three weeks; they took five hours to pass over—it was like a snowstorm in many ways, the air being all a-flutter with them.

After tea a friend of the family took me down to see a curious phenomenon in the shape of a poison hole; the gas came from a crevice in the rock, and was so heavy that it did not rise two feet above the ground; it felt quite hot about my feet and legs. The gas, whatever it is, must be pretty strong, for there were the bones of a buffalo that had lain down (probably to sleep) and died. Quite recently they picked up a fine horned owl at the spot, and dead snakes were found fairly often. I saw hundreds of butterflies dead in the grass that had fallen victims to the fumes. Saw a wild pig that made off very quickly. Hurried back to the house in the gathering dusk. Turned in about 11 P.M., after a creditably long day in which I had walked twenty-three, if not twenty-five, miles.

Next morning we climbed up the steep path for about three miles through the woods to Escarpment Station. There were

many fine butterflies about and at least five species of *Papilio* ; but the dominant insects were the locusts, and I trod on many hundreds as they crawled on the path. The bushes and trees were loaded down with them, for it is about the biggest swarm ever known in the Protectorate. At one time we thought the train would come to a standstill, as it slipped so on their bodies, but a boy was sent along in front of the engine to brush them off the track. The air as far as the eye could see was simply alive with them.

NOTES

NOTES ON THE WA-SEGEJU

By CAPT. T. A. DICKSON

The Wa-Segeju originally inhabited an area north of the Tana river known as Shingwaya, and were therefore neighbours of the Wa-Digo.

In consequence, however, of the constant raids of the Wa-Galla, the Wa-Segeju, under the leadership of Mwamsimburi, trekked southwards and settled at Ormuz (Pongwe) in Vanga District.

No settlements were made *en route*, and the migration is stated to have been prior to that of the Wa-Digo.

The original Kisegeju is stated to be more akin to Ki-Galla than Ki-Digo, and many Galla proverbs are used by the Wa-Segeju. There seems, however, to be no other remaining traces of resemblance ; the features of the Segeju have more of the distinctive characteristics of the Wa-Galla.

On the other hand, their customs are quite distinct from the Wa-Digo. Inheritance is from father to children, and property is equally divided. Land is communal, cultivation giving right to individual tenure.

The clan system is, or rather was, the basis of tribal constitution.

The chief, or leader, is always chosen from the clan of Mwakamathi.